4.0 PROCESS INFORMATION

ATK-Bacchus has two distinct hazardous waste management systems - one for reactive wastes, and one for chemical wastes. All hazardous waste management operations are conducted by ATK-Bacchus. The collection/process information of these two systems is addressed separately in the following text.

4.1 WASTE CHARACTERIZATION

Wastes will be characterized to identify hazardous properties to ensure they are properly managed. Section 3 identifies the WAP that will be used to characterize and classify both reactive and chemical wastes.

4.1.1 Reactive Waste

The primary products produced at ATK-Bacchus are solid rocket motors cast with either Class 1.1 or Class 1.3 propellants. Class 1.1 propellants typically contain liquid explosives such as nitroglycerin and solid ingredients such as nitrocellulose, HMX, RDX, aluminum and ammonium perchlorate. Class 1.3 propellants typically contain a non-explosive liquid binder and solid ingredients such as aluminum and ammonium perchlorate. Reactive wastes produced from or as part of the manufacturing process include, but are not limited to the following: cured and uncured propellants, rocket motors, small initiating devices, propellant scrap, and explosive ingredients (HMX, aluminum, ammonium perchlorate, etc.). Liquid explosive wastes, typically containing nitroglycerin, are diluted and absorbed in wood pulp. Reactive wastes can also include contaminated materials incidental to the manufacture of explosives such as rags, gloves, other personal protective equipment, plastics, rubber and paper.

Waste Class 1.1 and Class 1.3 materials are characteristic hazardous wastes for reactivity (D003). Nearly all of the reactive wastes generated at the facility are reactive due to the presence of propellants and explosives. Some reactive wastes, primarily from laboratory operations, may contain solvents and be listed wastes as defined by R315-2 of the UAC.

A limited portion of the propellant and explosive waste streams are not considered reactive wastes because they contain minimal amounts of reactive material. The Department of Transportation (DOT) is responsible for identifying which materials meet Class 1.1 and Class 1.3 designations. The DOT has examined Class 1.3 waste streams produced at the facility, and determined that wastes containing less than 3% weight Class 1.3 material are properly classified as flammable solids (DOT hazard class 4.1). Wastes meeting this criterion, are based on generator knowledge and are visually inspected for minimal propellant content, are segregated from other reactive wastes and managed for offsite disposal as non-hazardous waste.

The DOT declined to define the concentration where a waste Class 1.1 reactive material will no longer be considered a reactive waste. The DOT indicated that a small amount of Class 1.1 reactive material within a waste stream could still be reactive. Consequently, the conservative assumption is that all Class 1.1 waste streams generated at the ATK-Bacchus facility are reactive wastes.

4.1.2 Chemical Waste

A variety of non-explosive characteristic and listed hazardous wastes are generated by operations at the facility. Used oil, universal wastes, and non-RCRA wastes are also generated. All wastes generated at the facility are evaluated for hazardous properties. This evaluation includes generator knowledge, information obtained from the manufacturer's material safety data sheets and laboratory analysis. The Waste Analysis Plan (Section 3) provides the procedures, techniques and protocols that will be used to evaluate wastes generated at the ATK-Bacchus facility.

4.2 HAZARDOUS WASTE GENERATION AND COLLECTION

Waste generated at the ATK-Bacchus facility is from batch and continuous operations. These wastes are accumulated in accordance with R315-5, Hazardous Waste Generator Requirements. Waste accumulation stations are operated under either the 90-day rule or the satellite accumulation rule. Operators of manufacturing, maintenance or testing operations that produce wastes are instructed in the proper requirements for the disposal of these wastes.

4.2.1 Reactive Waste Generation and Collection

ATK-Bacchus uses a variety of containers for reactive waste. Standard containers used at ATK-Bacchus are described in this section. However, due to the nature of our operation, new types of containers may be required in the future, and can not be described in this application. In lieu of describing all containers, the basic criteria for selecting and using containers have been provided. ATK-Bacchus will use the selection and use criteria in the DOD Contractor's Safety Manual for Ammunition and Explosives (DOD 4145.26-M) when selecting a container for explosive wastes. Chapter 15.7 of this DOD document identifies how containers for explosive wastes will be selected. All containers for reactive waste that are currently used, or will be used in the future will meet the DOD 4145.26-M requirements.

Operating buildings generating reactive wastes use a variety of collection containers. Excess pure propellant is collected in cardboard/wood containers known as SLIDs, or "slum-in-a-drum", which typically can hold up to 500 pounds of waste propellant. A SLID allows a significant amount of excess propellant to be collected in one container, reducing handling requirements for large amounts of propellant waste. SLIDs are constructed from cardboard "Sona" tubes (used as forms for cement pillars) that are glued and sealed onto a pallet. A groove is routered into the pallet's surface to accept the form as shown in Figure 4-2.1. Excess pure propellant is placed in a SLID at the end of the manufacturing process, the open tops of the SLIDs are then covered with antistatic plastic and sealed with tape. SLIDs are also used at storage buildings to hold slum bags, and to contain certain wastes during burning.

Contaminated materials generated during the manufacturing process (rags, gloves, personal protective wear, plastics, etc.) and smaller amounts of waste propellant are collected in aluminum containers that are commonly referred to as "slum pots". Slum pots are specifically designed for the collection, transportation, and temporary storage of reactive waste within the operational boundaries of the ATK-Bacchus facility. Slum pots are constructed of seamless cold rolled aluminum that is 18 $^3/_4$ inches high by 18 $^3/_4$ inches in diameter and is ¼ inch thick or equivalent (see Figure 4-2.2). Each pot has two lifting handles and has a hard rubber lid and hard rubber bottom that cushion and resist any abrasion during transportation. Both the lid and bottom are non-sparking.

Slum pots are lined with antistatic plastic bags (known as "slum bags") that contain the waste. When the slum bag is full or at the end of the operating shift, the waste is sealed inside the slum bag with a plastic tie and the slum tag described in Section 4.3.1 is attached.

As liquid explosive wastes, typically containing nitroglycerin, are generated they are diluted and absorbed in wood pulp to reduce their sensitivity. Liquid explosive wastes are accumulated in slum bags.

Contaminated wastes that are too large for slum pots or are generated in large volumes are collected directly into commercially available 30-gallon fiberboard drums. These drums have a removable lid that can be sealed in place with a locking chime after the drum is filled. Drums selected for this application are approved by DOT for highway transportation of hazardous materials and can be used to ship these wastes off-site for treatment and disposal.

Other less frequently used containers for waste reactive materials include wood pallets for large blocks of cured propellant or ammunition cans used for initiating and ordnance materials. Waste rocket motors are generally large enough to be their own container. Dry ingredients that can explode during burning can be placed in large flat cardboard boxes, similar to a pizza box, that allow the material to burn with minimal confinement during burning.

Explosive contaminated wastewater is collected in wastewater tanks at the point of generation. Where appropriate, the propellant "chips" and other suspended solids are filtered out before the wastewater reaches the tank and collected in slum bags. The wastewater is pumped into tanker trucks and delivered to a wastewater treatment plant where it is treated, if necessary, before being discharged to a local POTW or transported off-site for treatment and disposal.

Each operating building that generates reactive waste has an explosive waste collection shed located approximately 50 feet from the operating building. The collection sheds facilitate removal of propellant and explosive wastes from the operating buildings. The collection sheds are constructed of wood or corrugated metal and are secured to a six-inch concrete floor. The sheds are closed on three sides with the open front facing north (see Figure 4-2.3). The north aspect of the open front ensures that the wastes are not exposed to direct sun during temporary storage.

Reactive wastes are placed in these sheds either as they are generated or at the end of each operating shift. Waste containers that are not full at the end of a shift are sealed, a hazardous waste explosive tag is attached and the container is moved to the temporary collection shed. For reactive wastes, the operating buildings and temporary collection sheds are managed as satellite accumulation stations. There are two exceptions to the use of these temporary storage sheds that include: 1) cold weather restrictions where certain Class 1.1 materials remain inside operating buildings because of safety concerns with freezing, and 2) large objects such as SLIDs where use of a dock at the operating building allows for more efficient and safe pick up of the waste.

Containerized explosive wastes are picked up from the collection sheds using a vehicle approved for the transport explosive wastes. Extreme care is used when handling all explosive wastes. The wastes are transported to either a less than 90 day explosive

storage building or a permitted explosive storage unit while the treatment preparations are being made. Explosive wastes are segregated by explosive classification. While in storage, slum bags containing similar types of explosive waste are often aggregated together in larger containers such as empty SLIDs to allow more efficient storage. Note that liquid explosive wastes always remain in slum pots during storage.

Propellant and explosive operating buildings at the ATK-Bacchus facility, including but not limited to explosive waste storage areas, are designed and constructed in accordance to strict federal standards. These standards assure that such facilities are properly constructed for the type of reactive material used and/or stored at each area. These standards also require explosive buildings to be separated by sufficient distance, known as quantity-distance, to prevent an explosive event in one building from propagating to another building. Quantity-distance rules also control the location of propellant and explosive operating buildings with regard to public property (highways, parks, etc,) and private property. All buildings used for temporary storage of waste explosives are correctly sited with regard to these quantity-distance rules. Refer to Section 2.3 for a narrative on quantity-distance rules. Refer to Figure 2-3.15 for safe distances for prominent 90-day storage and permitted facilities.

4.2.2 Chemical Wastes

Site operations generate a wide variety of chemical wastes incidental to the manufacturing processes. These wastes include both listed and characteristic wastes in solid and liquid form. Used oil, universal wastes and non-RCRA wastes are also generated and collected. Chemical wastes are stored in a variety of containers, which are compatible with the waste and can be closed. All containers shipped off-site for disposal meet applicable DOT container requirements. There are three different types of chemical wastes that are managed at the ATK-Bacchus facility: (1) routinely generated waste, (2) non-routinely generated waste, and (3) small container waste.

Routinely generated wastes include but are not limited to paints, coatings, solvents, and contaminated solids. These wastes are generated in a quantity, which fills in less than 90-days. Non-routinely generated wastes are similar in nature to routinely generated items, but are generated infrequently and at low volumes. Routinely and non-routinely generated wastes are collected in a variety of containers. These wastes are managed in containers that are compatible with the waste.

Small container wastes, includes but are not limited to a wide variety of off-specification commercial chemical products. The sources for these wastes include shelf-life expired commercial chemical products, unused commercial chemical products, aerosol cans, laboratory chemicals, and/or unique chemicals that are not routinely received. These wastes are easily characterized using generator knowledge and shipped to an approved TSDF is can-in-a-drum or the materials are lab packed.

Chemical wastes generated at the ATK-Bacchus operating buildings are transferred to HS-1 for storage prior to being shipped off-site to an approved TSDF for treatment and/or disposal.

4.3 WASTE TRACKING

Hazardous wastes generated or managed at the ATK-Bacchus facility are tracked. The waste tracking system manages information for both reactive and chemical waste. The tracking system is a combination of paper records and an electronic database.

4.3.1 Reactive Wastes

At the point of generation, the operator who packages the waste completes a Hazardous Waste Explosive tag (see Figure 4-3.4), which is attached to each waste container. The tag contains, at a minimum, the following information:

- The words "Hazardous Waste Explosive";
- The date and building where the waste was generated;
- The waste explosive category for each type of explosive generated on plant (e.g. Class 1.1 propellant or Nitrate Ester, Class 1.3 propellant, liquid explosive, etc.). The operator checks each applicable category on the tag to indicate the contents of the container to which it is attached;
- The estimated explosive and total weight of the container; and
- "Prepared" and "Approved by" lines to indicate who prepared the waste and, where applicable, who inspected the waste.

Each tag is bar coded with a unique number used to track the waste in an electronic database system. Tag information for each waste is entered into the database by the generators. Subsequent handling of each container of waste is tracked through the bar code and a commercially available bar code scanner. The scanner reads the bar code whenever a container of waste is picked up at the generation site, stored at one of the container storage buildings described Section 4.4, treated at the NIROP Burning Grounds, or sent to an approved offsite treatment facility. The information in the scanner, when in operation, is downloaded daily into the electronic database that provides the permanent handling and disposal record for each container.

For reactive wastes at generation or storage locations, the database displays each container's age in days for tracking purposes. This assists in meeting various environmental storage requirements for satellite accumulation, 90-day, or permitted storage areas.

For wastes treated at the NIROP Burning Grounds, the scanner and bar code are used to record (1) the day the waste was treated, (2) pan used to treat the waste, and (3) location on the burn pan. The weight of each container is maintained in the database and is used to track the total weight that is placed on a burn pan and the total weight burned on a given day.

Explosive wastes that are sent to an approved offsite treatment facility are tracked in the electronic database. The database tracks the manifest number(s) for every container shipped. In some cases, a number of slum bags are consolidated into a large reusable container that meets DOT shipping requirements. The waste tracking system identifies which containers are aggregated into the larger shipping containers.

Note that certain elements of the chemical waste tracking system as described in Section 4.3.2 are used for off-site shipments of reactive waste. These elements include hazardous waste manifest information such as transporter, manifest ship date, and

manifest return date. In addition, certain large rocket motors, which are shipped off-site for disposal, are managed and tracked using the chemical waste tracking system.

4.3.2 Chemical Waste Tracking For Routine and Non-Routine Generated Waste

The ATK-Bacchus facility maintains an electronic waste tracking system that collects and manages the following information for routinely and non-routinely generated waste.

Wastes being accumulated at an operating area are labeled and managed in accordance with R315-5 of the UAC for either less than 90-day storage areas or satellite accumulation areas. The tracking system maintains the following information that is collected to monitor the cradle to grave waste handling practices.

- Drum # -- A unique number assigned by ATK-Bacchus to each waste container.
- Waste Stream -- ATK-Bacchus' unique internal waste stream profile.
- Building # -- Building in which waste was generated.
- Manifest # -- Manifest number in which the waste was shipped under.
- Accumulation Date -- Date the container was given a number and delivered to a specific building.
- Pickup Date -- Date the container was received at HS-1.
- Quantity -- Weight of container ready for shipping.
- Status -- A code given to each container indicating whether it is in process or shipped to disposal facility.
- Storage -- Identifies storage locations.
- TSDF -- The facility where the material was delivered.
- Transporter -- The transporter used to transport the shipment.
- Ship Date -- Date the shipment left the facility.
- Return Date -- Date the fully signed manifest is received at ATK-Bacchus.
- Notes -- A brief description of the shipments contents.

4.3.3 Chemical Waste Tracking for Small Containers

Small containers of waste (i.e. waste that is eventually disposed as a lab pack) are entered into the small container database and stored in the appropriate lab pack cabinet based on the DOT classification for the material Small containers are accumulated until an adequate quantity has been amassed to fill a lab pack container. All lab pack containers are entered into the electronic tracking system as a non-routine generated waste. The following information is collected for each small containers of waste:

- Name - chemical or commercial name of the waste;
- Container # - database tracking number;
- Size - size of the container;
- Type - type of container (e.g. plastic, glass, metal, etc);
- State - physical state of the waste;
- Date - date received; and
- DOT - Department of Transportation classification.

Any small container held in storage for longer that one year will be managed in accordance with Section 4.9.

4.4 HAZARDOUS WASTE STORAGE

ATK-Bacchus stores hazardous wastes prior to disposal. Reactive and chemical wastes are stored in designated facilities, and segregated according to compatibility requirements.

4.4.1 HS-1

Chemical wastes are managed at HS-1. Routinely generated wastes, non-routinely generated wastes and small containers are all managed at this facility. HS-1 is primarily used for the storage/handling of solids and a limited amount of liquids. The facility functions as both a storage area for full containers, and a waste accumulation area where like wastes are combined into larger containers and small containers are assembled into lab packs.

HS-1 is used to store listed or characteristic waste. Figures 4-4.5 and 4-4.6 show the floor plans for Buildings 8562, 8567 and 8568, and a typical configuration for the buildings. Aisle space will be maintained at a 30-inch minimum, except in the small container storage cabinets. All containers will be tracked using the waste tracking system described in Sections 4.3.2 and 4.3.3.

Containers for routinely and non-routinely generated waste will be identified using the unique drum number issued by the electronic waste tracking system. They can also be identified with the labels used to ship the container to a TSDF or with the label used while the container was being generated. All non-RCRA waste stored at HS-1 will be identified in and tracked by the electronic waste tracking system. Non-RCRA wastes will be included in the volume used to track compliance with the storage capacities for the HS-1 buildings. Small containers of waste stored in the lab pack cabinets will be managed using the electronic tracking system, but will not be individually labeled.

Chemical compatibility will be ensured by storing waste materials at HS-1 in accordance with the Segregation Table for Hazardous Materials in 49 CFR 177.848. Liquids identified in the table as prohibited or restricted will be isolated and stored in separate containments from other materials. Non-liquids identified in the table as prohibited or restricted will be separated by a 30-inch minimum distance from incompatible wastes. The following rules will apply:

- Liquids with a pH less than 2 will not be stored in the same containment as liquids that are classified as Class 3 flammable liquids. However, liquids with a pH greater than 12.5 may be stored with flammable liquids.

- Small containers of waste will be stored in cabinets, and separated by DOT hazard class until they are lab packed according to the 49 CFR 177.848 table.

- Class 9 and non-regulated materials may be stored with any class of material.

Spill containment pallets are provided in buildings 8562 and 8568 to segregate incompatible wastes while in storage. If incompatible wastes are stored in the same containment area, the containers will be isolated from one another with a containment pallet. HS-1 is inspected daily when in use, and weekly when not in use to ensure container integrity and to correct any problems that might result from leaking containers. The inspection includes a visual inspection of the sump, and containment

pallets where spilled liquids would accumulate. Refer to HS-1 inspection requirements in section 5.0, "Procedures to Prevent Hazards."

All storage of regulated waste at HS-1 will occur in totally enclosed buildings. There is no concern regarding precipitation run-on or run-off.

4.4.2 ES-1

ES-1 is used to store any of the explosive wastes listed in section 4.1.1. Figure 4-4.7 shows a floor plan and a typical storage configuration of the building. Due to limited storage space, the aisles will be maintained at a minimum of 24 inches. The typical containers (e.g. 30-gallon level packs) stored in the building have a 19-inch diameter. The 24-inch minimum aisle space provides sufficient spacing for safe handling, movement of personnel, spill control equipment and decontamination equipment. Any containers larger than 19 inches in diameter will require a 30-inch aisle space.

This building has an automatic fire protection system, so that a fire can be fought remotely. Employees are not permitted to fight fires inside an explosive storage building. Each container will be labeled with a unique identification number, which will be entered into the waste tracking system described in Section 4.3.

Storage compatibility will be assured by requiring a 24-inch minimum space between 1.3 and 1.1 propellants and/or propellant ingredients when the container diameter is 19 inches or less. If the container diameter is larger than 19 inches, then a 30-inch minimum spacing will be maintained. NG remover will not be stored in this building.

This storage area is totally enclosed, so there are no precipitation run-on or run-off concerns. Free liquids are not stored in the building.

4.4.3 RH-1

RH-1 (see Figure 4-4.8) is used to store whole and sectioned rocket motors in addition to any of the explosive wastes listed in section 4.1.1. A minimum 30-inch aisle space will be maintained for all motors and containerized waste. Products and wastes are stored in this building. All wastes stored in this building will be clearly identified and segregated from products.

All containers of waste will be labeled with a unique identification number, which will be entered into the waste tracking system described in Section 4.3.1.

Whenever 1.1 and 1.3 propellant, propellant ingredients, or 1.1 and 1.3 waste propellant or waste propellant ingredients are stored at RH-1, an aisle space of at least 30 inches will be maintained to assure that the wastes are not commingled. NG remover, which is incompatible with 1.1 and 1.3 products and wastes, will not be stored in RH-1.

This storage area is totally enclosed, so there are no precipitation run-on or run-off concerns. Free liquids are not stored in the building.

4.4.4 Segment Storage

Segment Storage (see Figure 4-4.9) is used to store only Class 1.3 product and waste. The wastes will be in the following forms: motor segments, propellants, propellant ingredients and contaminated wastes placed in containers described in Section 4.2.1. The Class 1.3 products will be finished motors that are awaiting shipment to our customers. ATK-Bacchus will not store product and waste on the pad at the same time.

Motor segments will have a minimum 30-inch inspection aisle around the trailer or storage chock. Containers will be stored in enclosed locked trailers, and will have a minimum 24-inch inspection aisle for containers 30 gallons or less in volume, and a 30-inch minimum aisle space for containers larger than 30 gallons. To permit efficient storage, slum bags may be aggregated in other containers besides slum pots including empty SLIDs and reusable plastic shipping bins. A 30-inch aisle space will be provided for these larger intermediate containers.

The motor cases are made of impervious layers of rubber and resin-impregnated graphite fiber. The open ends of the motor cases are sealed, usually with plastic sheeting or a foam insert, and are grounded to prevent the build up of static charges. All other materials will be stored in slum bags.

Each container of waste will be labeled with a unique identification number, which will be entered into the waste tracking system described in Section 4.3, and the words "Hazardous Waste" and the date of accumulation. All products will be identified by the shipping documentation that accompanies the motor. Since only Class 1.3 materials can be stored on this area, there are no storage compatibility concerns.

All of the products and wastes stored on this pad will be covered, and will not be exposed to precipitation. Motors will be covered with a tarp or inside a shipping container, and containers will be stored inside an enclosed locked trailer. There are no precipitation run-on or run-off concerns. No free liquids are stored on this pad.

4.5 DISPOSAL OF REACTIVE WASTE

Reactive wastes are managed differently based on the treatment method. The treatment options include, but are not limited to, open burning on-site at the NIROP Burning Grounds, open burning or detonation at the ATK facility near Promontory, Utah (ATK-Promontory), open burning or detonation at the Utah Test and Training Range (UTTR) located at Oasis, Utah or offsite treatment and disposal at another TSDF. The small non-hazardous portion of reactive waste can be treated at an appropriate commercial offsite facility. The following sections provide more details on the collection and management of reactive wastes prior to being prepared for one of the disposal options. The following sections provide more details on each of these options.

4.5.1 Off-site Disposal of Reactive Waste

Propellant and explosive wastes amenable to public transport are currently shipped off-site to an approved hazardous waste treatment facility. Federal regulations impose strict requirements for the transportation of explosive materials on public highways. All explosive materials must be examined and approved by the DOT or an authorized military agency prior to shipment. Testing is often necessary to determine the hazardous nature of each explosive material and to verify the integrity of the packaging method selected for each waste. These federal requirements are followed whenever

explosive wastes are shipped from the ATK-Bacchus facility to assure that they are shipped safely.

The primary off-site treatment facility for ATK-Bacchus is the ATK-Promontory facility located approximately 100 miles north of ATK-Bacchus. ATK-Promontory is located in a much more remote area compared to the urban setting of the ATK-Bacchus facility and is an approved hazardous waste treatment facility, permitted to conduct open burning of explosive wastes. In general, routinely generated production waste is transferred to ATK-Promontory if approved shipping methods can be developed. Production wastes that remain at ATK-Bacchus for open burning are difficult to ship because they are odd sized, generated in small quantities, have explosive safety hazards, or cannot be shipped on public highways.

Some of the production wastes routinely shipped to ATK-Promontory includes:

- SLIDs containing pure Class 1.1 or Class 1.3 propellant are shipped with a plywood cover placed over the top of each SLID and banded in place.

- Class 1.3 contaminated wastes: Slum bags containing contaminated wastes (rags, gloves, wipes, etc. contaminated with >3% reactive material) are placed in lined, reusable plastic bins for shipment. Up to 350 pounds of waste can be aggregated in each bin. Each bin is closed and secured with plastic banding prior to shipment. Contaminated Class 1.3 wastes too large to fit in slum bags are shipped in individual, sealed 30-gallon fiberboard drums.

- Explosive contaminated packaging: Contaminated packaging, such as, the cloth and plastic bags that HMX and RDX products arrive in from the vendor. After being emptied, these contaminated bags are shipped to Promontory in sealed 30-gallon fiberboard drums for treatment.

- Waste HMX and RDX: HMX and\or RDX is wetted, with a minimum, of 15% by weight water and accumulated in plastic lined 30-gallon fiberboard drums. Additional packaging requirements for HMX or RDX are described later in this section.

Propellant and explosive wastes are also sent to UTTR (Utah Test and Training Range), located approximately 70 miles west of the ATK-Bacchus facility. UTTR is an approved hazardous waste treatment facility, permitted for open burning and open detonation of explosive wastes that are the property of the Federal government. Whenever possible, waste rocket motors and large sections of rocket motors that meet this requirement are sent to this facility for treatment. UTTR typically conducts operations in the spring, summer, and early fall. If necessary, materials are stored at ATK-Bacchus until UTTR is available for disposal.

The ATK-Bacchus facility is used as a staging point for obsolete rocket motors that are awaiting treatment at UTTR. The rocket motors are received by ATK-Bacchus as products or hazardous waste. The obsolete rocket motors are always shipped to UTTR properly labeled as hazardous waste using a hazardous waste manifest. Shipments are on public highways or via a combination of rail and public highway.

HMX and RDX are supplied to the ATK-Bacchus facility by the Federal government. Waste HMX and RDX derived from the product supplied by the Federal government are the property of the Federal government and can be treated at UTTR by open detonation. These wastes can also be treated at ATK-Promontory by open burning, or at another approved TSDF. In order for HMX and RDX to be transported over public highways, it must be wetted with a minimum of 15% by weight water. Waste HMX and RDX are accumulated in plastic lined 30-gallon fiberboard drums, which hold up to 300 pounds of wetted HMX or RDX per drum. The fiberboard drums are always maintained in a closed condition unless ATK-Bacchus is adding waste to the container or verifying the water content inside the bag. Packing will conform to 49 CFR 172.101 Hazardous Material Table requirements for HMX.

The drums of waste HMX and RDX are accumulated until quantities permit efficient shipment. Waste HMX and RDX are usually stored at ES-1, but can be stored at other ATK-Bacchus permitted explosive storage units. Waste HMX and RDX are shipped via public highways using a hazardous waste manifest and a licensed transporter.

It should be noted that smaller quantities of HMX or RDX (usually 3-5 pounds) and HMX or RDX mixed with other ingredients during processing are not shipped to UTTR or ATK-Promontory. This waste is collected and burned at the NIROP burning grounds in small increments of 10 pounds or less. When generated, this waste HMX or RDX is stored at one of the permitted explosive storage units or in one of the less than 90-day explosive storage areas.

The DOT has classified Class 1.3 contaminated wastes containing less than 3% reactive material as a flammable solid. While this material is not a reactive waste, it is still collected with other reactive wastes and packaged in explosive waste storage buildings. Operators use generator knowledge and a visual inspection of the waste to determine which slum bags contain less than 3% reactive material. This waste is typically packaged in 30-gallon fiberboard drums. After it has been packaged and properly labeled as a flammable solid, it can be stored at HS-1 with other chemical wastes until shipment to a commercial hazardous waste treatment facility.

4.6 MANAGING CHEMICAL WASTE AT HS-1

Containers of chemical waste are accumulated and stored at HS-1. Activities performed at HS-1 include: (1) receiving containers, (2) consolidating waste, (3) managing small containers, (4) preparing lab packs and (5) coordinating the shipment of waste to an offsite TSDF.

Chemical waste containers are delivered to HS-1 for storage. Full 55-gallon drums are typically delivered directly to the storage area in building 8562 or 8568. Upon arrival, all containers are inspected to ensure they are safe to store. The tracking system is updated and the container number is checked to ensure that it is visible and legible. Containers are then stored based on type of waste, and compatibility restrictions. Occasionally partial containers are received and are moved into the handling area in building 8567 where the contents can be combined with other partial containers of the same waste. To facilitate combining partial containers, accumulation drums are located in building 8567.

Small containers include, but are not limited to, off-specification commercial chemical products and shelf life expired and/or partial containers of commercial products used in the manufacturing areas such as paints, adhesives, coatings, curing agents and laboratory reagents. These wastes are processed through the chemical handling area in building 8567 within 2 business days. Processing time is documented using form FOP-0061 (Figure 4-6.10). Due to the variety of excess property regulations which govern government supplied and contractor-supplied materials, processing time may be documented using other sources as long as the material description and date received are provided. Small containers are accumulated and managed in the storage cabinets until they are lab packed and shipped to an approved off-site TSDF. Small containers may also be transferred directly to accumulation drums referred to as "cans-in-a-drum" and stored until they are shipped to an approved off-site TSDF.

Common wastes such as paints, coatings and amine curing agents are profiled by an approved TSDF. These profiled wastes are placed directly into accumulation drums upon receipt at HS-1. Accumulation drums, or "cans-in-a-drum" containers, are located in buildings 8562 and 8567.

Wastes that are not commonly used are lab packed for off-site treatment and/or disposal. Wastes to be lab packed are placed in storage cabinets located in Building 8562 and Shed B based on their DOT classification. Small containers that require refrigeration are stored in the refrigerator located in building 8567. Identification and classification of small containers is done by using generator knowledge, the manufacturer's information or the MSDS. Containers that are not properly labeled are temporarily classified for storage using simple finger printing techniques such as screening the substance for pH, water reactivity, and flash point. Wastes that are negative for these tests are temporarily classified as Class 9 until laboratory testing can be conducted to identify the presence of hazardous waste constituents. Small containers of chemicals are stored in cabinets until an adequate volume is accumulated to lab pack and ship to an approved TSDF. The storage time for small containers may exceed one year.

Other activities conducted at HS-1 include preparing drums for shipment to approved TSDF. HS-1 also prepares and labels empty containers for delivery to the generating area.

4.7 OFF-SITE DISPOSAL

Prior to the shipment of any hazardous waste to an off-site TSDF, containers are marked and labeled and shipping papers are prepared in accordance with 49 CFR 172, and R315-5-2 and R315-50-1. Only permitted treatment storage and disposal facilities are used.

4.8 RECEIVING HAZARDOUS WASTE FROM OFF-SITE

The ATK-Bacchus facility periodically receives hazardous waste from off-site locations. It is generally limited to waste generated at other ATK owned facilities. However, reactive waste including rocket motor segments from any source may be received for storage.

All off-site generated hazardous waste will be reviewed and approved prior to being accepted using the information listed below. Upon receipt, all off-site generated hazardous waste will be visually inspected to ensure that it meets it's the profile

description and that the manifest is correct. All deficiencies will be resolved with the generator before the waste is received. After the waste has been accepted, it will be managed using the tracking system described in section 4.32 and 4.3.3. Purge water from ATK-Bacchus operated off-site ground water monitoring wells is exempt from the requirements in this paragraph, except for the manifest requirements.

- EPA hazardous waste number(s)
- Physical description
- Chemical description
- Source of the waste
- Sampling frequency
- Parameter for Analysis
- Handling code
- Tracking system number
- DOT shipping description
- Safe handling instructions

4.9 STORING WASTES FOR LONGER THAN ONE YEAR

Under the conditions described below the following materials may be stored for longer than one year:

- Wastes designated for disposal at UTTR where disposal arrangements and/or approvals cannot be completed within one year.
- Rocket motors or motor sections that lack adequate approvals to ship off-site and/or lack sensitivity data to develop a disposal plan in less than one year.
- Small containers stored at HS-1 may also exceed one year when there is not adequate volume to fill a lab pack container or difficulty in arranging disposal at a TSDF.

A report will be submitted annually no later than January 31st identifying any waste in storage longer than one year.